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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Audrey D. Harman

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EXAMINER

FORD, GRANT M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/691,004	Applicant(s) HARMAN, AUDREY D.	
	Examiner GRANT FORD	Art Unit 2441	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10-29-2008 with respect to Applicant admitted prior art failing to disclose three sequentially connected storage systems have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Teloh, as outlined below.

2. Applicant's arguments filed 1-29-2008 have been fully considered but they are not fully persuasive. Applicant argued in substance that –

(A) The prior art of Tanaka fails to teach a second storage system configured to store individual data files on an individual file-by-file basis and subsequently form blocks of data including the individual files and transferring the blocks of data.

(B) The prior art of Anidi fails to teach the use of a bonded TDM connection configured to transfer individual data files from the first storage system to the second storage system.

3. As to point (A), Regarding Applicant's arguments with respect to the prior art of Tanaka, Applicant's arguments are not found to be persuasive. Applicant argued that the prior art of Tanaka fails to teach a second storage system configured to store individual data files on an individual file-by-file basis and subsequently form blocks of

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data including the individual files and transferring the blocks of data. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the Office Action dated 7-29-2008, the prior art of Tanaka was merely relied upon for teaching a storage system receiving individual data files and subsequently forming blocks of data including the individual data files and transferring the blocks of data (AAPA was relied upon for the disclosure of receiving and storing the individual data files on the individual file by file basis).

Applicant argued that in the prior art of Tanaka, file server 310 converts file information into block information and not storage system 340. Tanaka teaches file server 310 and storage system 340 operating together as a unit for converting file level data to block level data for read/write access (Para. 0008). As such, the file server 310 in combination with storage system 340 has been interpreted as a storage system.

4. As to point (B), Applicant argued prior art of Anidi fails to teach the use of a bonded TDM connection configured to transfer individual data files from the first storage system to the second storage system. Anidi teaches the use of bonded TDM connections for transferring file level data between storage systems carrying data in a format including iFCP, FCIP, and iSCSI for use with metropolitan area networks (Sec. 2.6, 3, 3.1). As such, Applicant's argument is not found to be persuasive.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,3-6,9-11,13-16,and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Tanaka et al. (US 2004/0139168), hereinafter referred to as Tanaka, in view of Anidi et al. (*Storage area networking – an introduction and future development trends*), and further in view of Teloh et al. (US 2003/0014523), hereinafter referred to as Teloh.

a. As per claims 1 and 11, AAPA discloses a data storage system comprising:

a first storage system at a customer premises that is configured to receive individual data files from a customer system, and on an individual file-by-file basis substantially in real time from receiving each of the individual data files, to determine individual file types for the individual data files and transfer the individual data files based on the individual file types determined for the individual data files (NAS system 102, Specification Page 2 line 20 through Page 3 line 11);

a second storage system configured to receive and store the individual data files on the individual file-by-file basis (Local storage system 103, Specification Page 2 lines 22-24, Page 3 lines 6-11);

a third storage system configured to receive and store blocks of data to store individual data files (Remote storage system 203, Specification Page 4 lines 2-6); and

an internet protocol connection configured to transfer the blocks of data from the second storage system to the third storage system (Specification Page 4 lines 7-9 – note communication link 212 utilizing an internet protocol connection). However, AAPA fails to explicitly disclose a storage system receiving individual data files and subsequently forming blocks of data including the individual data files, and transferring the blocks of data.

Tanaka teaches a storage system receiving individual data files and subsequently forming blocks of data including the individual data files, and transferring the blocks of data (Para. 0008). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of file to block level data conversion with the applicant admitted prior art NAS and SAN systems. One of ordinary skill in the art would have done so for the purpose of performing data operations at a block level access device from a file level system device (Para. 0008).

Anidi teaches a bonded time division multiplex connection capable of transferring the data files from the first storage system to the second storage system on an individual file-by-file basis (Section 3.1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a bonded TDM link between storage systems. One of ordinary skill in the art would have done so for the purpose of providing a well known and widely used communications

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interface between remote locations (e.g., Metropolitan Area Network) (Anidi Section 3,3.1, Specification Figure 4, Page 4 lines 7-12).

Teloh teaches first, second, and third storage systems which sequentially transfer data between one another (Figure 9, Para. 0058). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a store-and-forward configuration across a first, second, and third storage system with the applicant admitted prior art NAS and SAN systems. One of ordinary skill in the art would have done so for the purpose of providing replication services across remotely located storage system locations, thereby providing remote mirroring of data across multiple remote sites (Para. 0058).

b. As per claims 3 and 13, AAPA discloses wherein the second storage system is less than 20 miles from the customer premises (Specification Page 3 lines 3-5 note SCSI/ethernet, Page 3 lines 13-15).

c. As per claims 4 and 14, AAPA discloses wherein the second storage system is less than 50 miles from the customer premises (Specification Page 3 lines 3-5 note SCSI/ethernet, Page 3 lines 13-15).

d. As per claims 5 and 15, AAPA discloses wherein the second storage system is greater than 50 miles from the customer premises (Specification Page 4 lines 7-9 note Internet Protocol (IP)).

e. As per claims 6 and 16, AAPA discloses wherein the second storage system is greater than 200 miles from the customer premises (Specification Page 4 lines 7-9 note Internet Protocol (IP)).

f. As per claims 9 and 19, AAPA discloses wherein the first storage system is a NAS system and not a SAN switch (Specification Page 3 lines 6-11 – see NAS system 102, Figure 1).

g. As per claims 10 and 20, AAPA discloses wherein the first storage system transfers the individual data files to the second storage system on the individual file-by-file basis and not on a block-by-block basis (Specification Page 3 lines 6-11 – see NAS system 102).

7. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA, Tanaka, Anidi, and Teloh in view of Padovano (US 2002/0156984).

a. As per claims 2 and 12, AAPA, Tanaka, Anidi, and Teloh teach the invention substantially as claimed above. Additionally, AAPA discloses storing versions of data files at a customer system, second storage system, and third storage system (NAS system 102, Local storage system 103, Remote storage system 203). However, AAPA does not explicitly disclose that the three systems are geographically diverse.

Padovano teaches wherein versions of the individual data files are simultaneously maintained at three geographically diverse locations (Para. 0077). It would have been obvious to one having ordinary skill in the art at the time the invention

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was made to incorporate the use of geographically diverse locations with applicant admitted prior art NAS and SAN systems. One of ordinary skill in the art would have been motivated to do so for the purpose of incorporating wide area networks into a storage network configuration (Para. 0050) as well as allowing for remote backup, mirroring, and replication configurations of the storage network.

8. Claims 7-8 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA, Tanaka, Anidi, and Teloh in view of Greenblatt et al. (US 2003/0115204) hereinafter referred to as Greenblatt.

a. As per claims 7 and 17, AAPA, Tanaka, Anidi, and Teloh teach the invention substantially as claimed above. However, AAPA fails to explicitly disclose a customer management system at the customer premises. Greenblatt teaches a customer management system at the customer premises which received customer instructions and in response modifies storage capacity at a second and third storage system and modify communications capacity on network links (Figure 1, Para. 0010,0012,0015,0022, 0044-0060). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a management console for storage and bandwidth management with the applicant admitted prior art NAS and SAN systems. One of ordinary skill in the art would have been motivated to do so for the purpose of defining and evaluating policies to perform actions in a more efficient and cost-effective manner (Para. 0010).

b. As per claims 8 and 18, AAPA, Tanaka, Anidi, and Teloh teach the invention substantially as claimed above. However, AAPA fails to explicitly disclose a customer management system at the customer premises. Greenblatt teaches a customer management system at the customer premises linked to a second and third storage system which receives customer instructions and assigns priorities that the individual data files have to block transfer between the second and third storage systems (Figure 1, Para. 0010,0012,0015,0022, 0044-0060). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a management console for storage management with the applicant admitted prior art NAS and SAN systems. One of ordinary skill in the art would have been motivated to do so for the purpose of defining and evaluating policies to perform actions in a more efficient and cost-effective manner (Para. 0010).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT FORD whose telephone number is (571)272-8630. The examiner can normally be reached on 8-5:30 Mon-Thurs alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Caldwell/
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Unit 2442

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Examiner, Art Unit 2441